Vermont Mental Health Performance Indicator Project

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MEMORANDUM

TO: Vermont Mental Health Performance Indicator Project
Advisory Group and Interested Parties

FROM: John Pandiani
Monica Simon

DATE: September 28, 2001

RE: Education Test Participation

For corrected data tables see www.state.vt.us/dmh/Data/PIPs/2002/pip020602.pdf.

Outcome measures for children and adolescents frequently include "…the ability to effectively fulfill social and role-related functions"[1]. Among these functions, school attendance is an important indicator. This indicator is included in the National Association of State Mental Health Program Directors' (NASMHPD) *Performance Measures for Mental Health Systems* [2], which guides much of the work of the Vermont Performance Indicator project. It is important to point out that from NASMHPD's point of view, "…that school attendance or school performance are not determined solely by the mental health services received and that mental health service providers can not be held responsible for school performance". Nevertheless, they conclude school participation and performance are "…critical objective(s) of such services and mental health services should have some impact."

This week's Performance Indicator Project report focuses on one narrowly defined measure of school participation in order to help identify the issues involved in calculating, interpreting, and using school participation as a measure of mental health program and/or service system performance. A similar line of analysis using school performance measures will be pursued in the future.

School participation, for purposes of this analysis, is defined as completion of Vermont's annual statewide Mathematics Skills Assessment test at the 4th, 8th, and 10th grade levels by young people in specified age groups who were served by community mental health Children's Services Programs during 1998 and 1999. The specified age groups include individuals who were tested at the expected grade level or were tested at that grade level one year later. There are a number of possible reasons for young people not completing the test. These include situations in which the test was taken but not completed, an alternative test was taken, the student was excused from testing, the student was not in school on the day of the test, or the student was not enrolled in school.

In this analysis, Probabilistic Population Estimation[3] was used to determine the overlap between two data sets in this analysis because the data sets do not share unique person identifiers.

These estimates are based on a comparison of the distribution of dates of birth in the data sets to the known distribution of dates of birth in the general population. For this analysis, the data sets include anonymous extracts from the Vermont Department of Education's New Standards Reference Exams and the Monthly Service Report database maintained by the Vermont Department of Developmental and Mental Health Services.

The attached tables and graphs provide information on the number of young people who were served by community mental health Children's Services Programs, and the number and percent of these young people who participated in school testing as defined above. In addition, a Test Participation Ratio (the participation rate for clients divided by the participation rate for all young people) was calculated and reported. This ratio provides a fairer comparison across local mental health agencies because it takes into account differences in overall testing rates in different regions of the state.

As you will see, young people served by community mental health programs were less likely to participate in the standardized testing procedure than others in the same age group. Approximately 40% of CMHC clients participated, compared to 62% of all Vermont young people in the specified age groups. The rate at which service recipients participated in the testing program varied from more than 45% in Southeastern Vermont and Rutland County to less than 33% in Lamoille and Chittenden Counties. Only Lamoille County, however, was significantly different from the statewide rate.

When variation among regions of the state in the rate at which all young people were tested is taken into account, greater variation among regions is evident. Northwestern Vermont has a significantly higher Test Participation Ratio (more clients are tested) than the state as a whole (0.72 compared to 0.64). Chittenden and Lamoille counties, on the other hand, have lower test participation rates than the state as a whole (0.41 and 0.50, respectively, compared to 0.64 for the state).

Once again, we will be very interested in your interpretation of these findings and your suggestions for further analysis that uses educational test scores in conjunction with data regarding participation in community mental health programs. Please address your comments and/or questions to jpandiani@ddmhs.state.vt.us or call John Pandiani at 802-241-2638.

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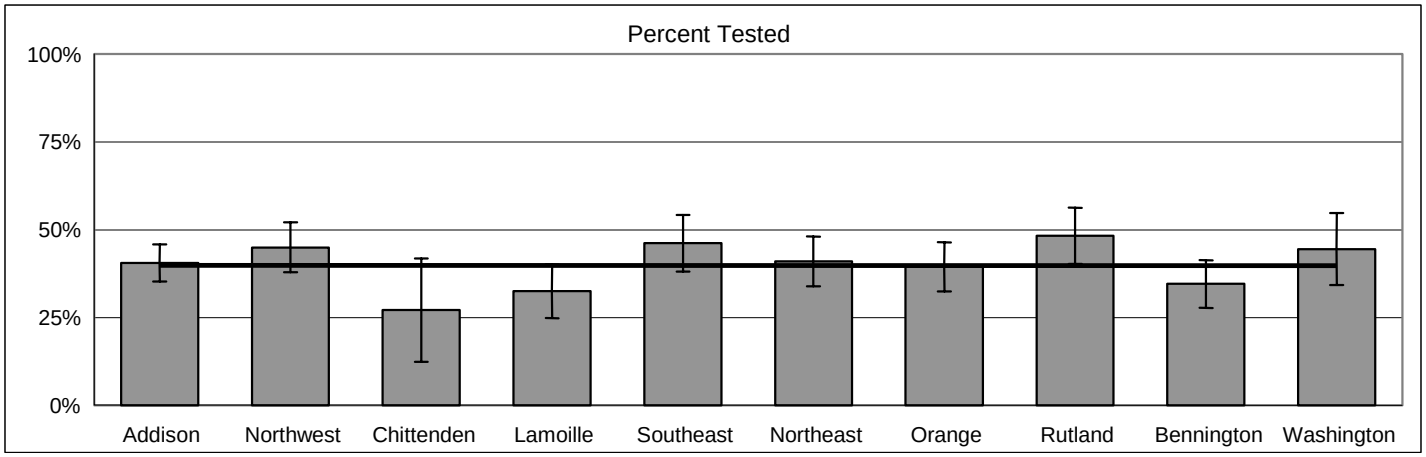
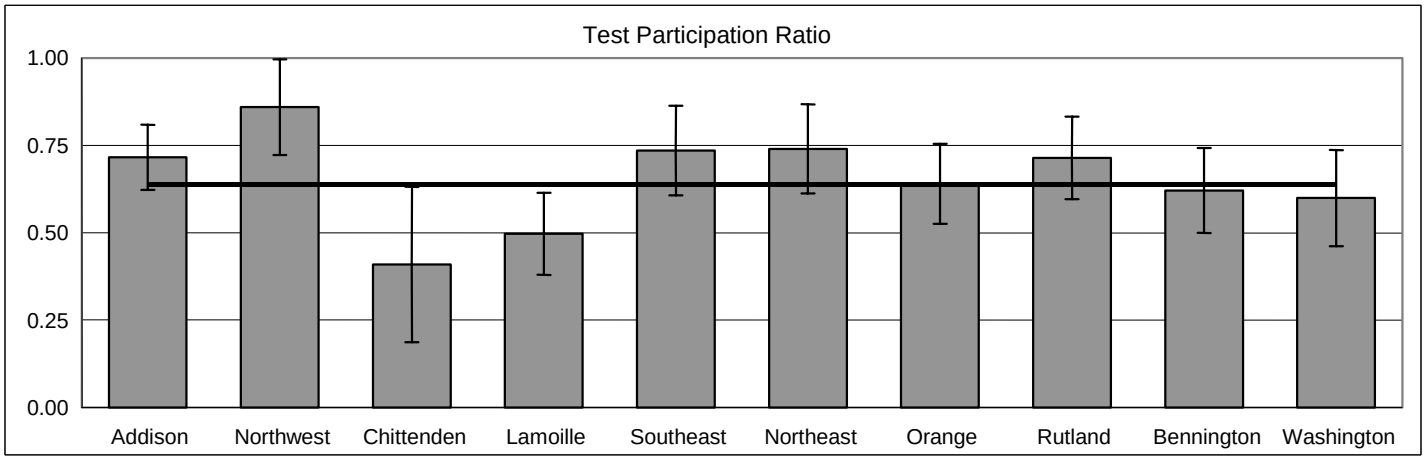
[1] Rosenblatt, A. (1998). Assessing the child and family outcomes of systems of care for youth with serious emotional disturbance. In M.H. Epstein, K. Kutash, & A. Duchnowski (Eds.) Outcomes for Children and Youth with Severe Emotional Disorders and Their Families, pp. 329-361. Austin, TX: Pro-Ed.

[2] National Association of State Mental Health Programs Directors. (1998) *Performance Measures of Mental Health Systems.* Arlington, VA. National Association of State Mental Health Program Directors. http://www.rdmc.org/nri/firstpage.htm

[3] Banks SM, and Pandiani JA (2001) Probabilistic Population Estimation of the Size and Overlap of Data Sets Based on Date of Birth. *Statistics in Medicine*, Vol. 20: 1421-1430.

Participation in Statewide Mathematics Skills Assessment
For Young People Served by Community Mental Health Centers During 1998 and 1999
and Other Young People Who Were Tested During 1998 - 2000





	Young People Served by CMHC's			Total Population Tested	Test Participation Ratio
	Number Served	Number Tested	Percent Tested		
State	2,174 ± 16	867 + 72	40% ± 3%	62%	0.64 ± 0.05
Addison	202	82 ± 11	41% ± 5%	57%	0.72 ± 0.09
Northwest	164	74 ± 12	45% ± 7%	52%	0.86 ± 0.14
Chittenden	351	95 ± 52	27% ± 15%	66%	0.41 ± 0.22
Lamoille	59	19 ± 5	32% ± 8%	65%	0.50 ± 0.12
Southeast	401	185 ± 32	46% ± 8%	63%	0.74 ± 0.13
Northeast	317	130 ± 22	41% ± 7%	55%	0.74 ± 0.13
Orange	165	65 ± 12	39% ± 7%	62%	0.64 ± 0.11
Rutland	208	100 ± 17	48% ± 8%	68%	0.71 ± 0.12
Bennington	144	50 ± 10	35% ± 7%	56%	0.62 ± 0.12
Washington	152	68 ± 16	44% ± 10%	74%	0.60 ± 0.14

Test Participation includes young people who completed the New Standards Reference Reference Exam. Test Participation Ratio is the ratio of the per
of young people tested who were served by a CMHC and the percent of young people tested in the general population.
Analysis is based on Monthly Service Reports provided to DDMHS by the community mental health centers and data provided by The Department of
Education.
Because these data sets do not share unique person identifers, Probabilistic Population Estimation was used to provide unduplicated counts of individu
shared across data sets (with 95% confidence intervals).